§11-265-173 Management of containers. (a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35)(Imp: 40 C.F.R. §265.173)

§11-265-174 Inspections. The owner or operator must inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.174)

§11-265-175 [Reserved]

§11-265-176 Special requirements for ignitable or reactive waste. Containers holding ignitable or reactive waste must be located at least fifteen meters (50 feet) from the facility's property line. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.176)

§11-265-177 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same container, unless subsection 11-265-17(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see Appendix V for examples), unless subsection 11-265-17(b) is complied with.

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.177)

§11-265-178 Air emission standards. The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subchapters AA, BB, and CC. [Eff 3/13/99; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.178)

SUBCHAPTER J

TANK SYSTEMS

§11-265-190 Applicability. (a) Tank systems that are used to store or treat hazardous waste which contains no free liquids and that are situated inside a building with an impermeable floor are exempted from the requirements in section 11-265-193. To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in ``Test Methods for Evaluating Solid Waste, Physical/Chemical Methods'' (EPA Publication SW-846), as incorporated by reference in section 11-260-11.

(b) Tank systems, including sumps, as defined in section 11-260-10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in subsection 11-265-193(a).

(c) Tanks, sumps, and other collection devices used in conjunction with drip pads, as defined in section 11-260-10 and regulated under subchapter W of chapter 11-265, must meet the requirements of this subchapter. [Eff 6/18/94; am 3/13/99; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.190)

§11-265-191 Assessment of existing tank system's integrity.

(a) For each existing tank system that does not have secondary containment meeting the requirements of section 11-265-193, the owner or operator must determine that the tank system is not leaking or is unfit for use. Except as provided in subsection (c), the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by an independent, qualified, registered professional engineer in accordance with subsection 11-270-11(d), that attests to the tank system's integrity by the effective date of chapter 11-265.

(b) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

(1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;
(2) Hazardous characteristics of the waste(s) that have been or will be handled;
(3) Existing corrosion protection measures;
(4) Documented age of the tank system, if available, (otherwise, an estimate of the age); and
(5) Results of a leak test, internal inspection, or other

tank integrity examination such that:

(i) For non-enterable underground tanks, this assessment must consist of a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects,

(ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must be either a leak test, as described above, or an internal inspection and/or other tank integrity examination certified by an independent, qualified, registered professional engineer in accordance with subsection 11-270-11(d) that addresses cracks, leaks, corrosion, and erosion.

(c) Tank systems that store or treat materials that become hazardous wastes subsequent to July 14, 1986, must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(d) If, as a result of the assessment conducted in accordance with subsection (a), a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of section 11-265-196. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.191)

§11-265-192 Design and installation of new tank systems or components. (a) Owners or operators of new tank systems or components must ensure that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection so that it will not collapse, rupture, or fail. The owner or operator must obtain a written assessment reviewed and certified by an independent, qualified, registered professional engineer in accordance with subsection 11-270-11(d) attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. This assessment must include, at a minimum, the following information:

(1) Design standard(s) according to which the tank(s) and ancillary equipment is or will be constructed.

(2) Hazardous characteristics of the waste(s) to be handled.

(3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion,

including but not limited to:
(A) Soil moisture content;
(B) Soil pH;
(C) Soil sulfides level;
(D) Soil resistivity;
(E) Structure to soil potential;
(F) Influence of nearby underground metal structures (e.g., piping);
(G) Stray electric current; and,
(H) Existing corrosion-protection measures (e.g., coating, cathodic protection), and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:
(A) Corrosion-resistant materials of construction such as special alloys or fiberglass-reinforced plastic;
(B) Corrosion-resistant coating (such as epoxy or fiberglass) with cathodic protection (e.g., impressed current or sacrificial anodes); and
(C) Electrical isolation devices such as insulating joints and flanges.

(4) For underground tank system components that are likely to be affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(5) Design considerations to ensure that:
(i) Tank foundations will maintain the load of a full tank;
(ii) Tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone, or is located within a seismic fault zone; and
(iii) Tank systems will withstand the effects of frost heave.

(b) The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or an independent, qualified, registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems, must inspect the system or component for the presence of any of the following items:

(1) Weld breaks;
(2) Punctures;
(3) Scrapes of protective coatings;
(4) Cracks;

(5) Corrosion;
(6) Other structural damage or inadequate construction or installation.

All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

(c) New tank systems or components and piping that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is carefully installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(d) All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed in use.

(e) Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction.

(f) The owner or operator must provide the type and degree of corrosion protection necessary, based on the information provided under paragraph (a)(3), to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

(g) The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of subsections (b) through (f) to attest that the tank system was properly designed and installed and that repairs, pursuant to subsections (b) and (d) were performed. These written statements must also include the certification statement as required in subsection 11-270-11(d). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.192)

§11-265-193 Containment and detection of releases. (a) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in subsections (f) and (g)):

(1) For all new tank systems or components, prior to their being put into service;
(2) For all existing tanks used to store or treat EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027, by the effective date of these rules;
(3) For those existing tank systems of known and

documentable age, by the effective date of these rules or when the tank systems have reached 15 years of age, whichever comes later;

(4) For those existing tank systems for which the age cannot be documented, by January 12, 1995; but if the age of the facility is greater than seven years, secondary containment must be provided by the time the facility reaches 15 years of age, or by the effective date of these rules, whichever comes later;

(5) For those existing tank systems of known and documentable age that store or treat materials that become hazardous wastes subsequent to the effective date of these rules, within two years after the date that the material becomes a hazardous waste under RCRA, or by the effective date of these rules, or when the tank system has reached 15 years of age, whichever comes later; and

(6) For those existing tank systems for which the age cannot be documented that store or treat materials that become hazardous wastes subsequent to the effective date of these rules, within eight years after the date that the material becomes a hazardous waste under RCRA, or by the effective date of these rules, whichever comes later; but if the age of the facility is greater than seven years, secondary containment must be provided by the time the facility reaches 15 years of age, or within two years after the date that the material becomes a hazardous waste under RCRA, or by the effective date of these rules, whichever comes later.

(b) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of subsection (b), secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from nearby vehicular traffic);

(2) Placed on a foundation or base capable of providing

support to the secondary containment system and resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system within twenty-four hours, or at the earliest practicable time if the existing detection technology or site conditions will not allow detection of a release within twenty-four hours;

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within twenty-four hours, or in as timely a manner as is possible to prevent harm to human health or the environment, if removal of the released waste or accumulated precipitation cannot be accomplished within twenty-four hours.

(d) Secondary containment for tanks must include one or more of the following devices:

(1) A liner (external to the tank);

(2) A vault;

(3) A double-walled tank; or

(4) An equivalent device as approved by the director.

(e) In addition to the requirements of subsections (b), (c), and (d), secondary containment systems must satisfy the following requirements:

(1) External liner systems must be:

(i) Designed or operated to contain one-hundred percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a twenty-five year, twenty-four hour rainfall event;

(iii) Free of cracks or gaps; and

(iv) Designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

(2) Vault systems must be:

(i) Designed or operated to contain one-hundred

percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a twenty five year, twenty-four hour rainfall event;

(iii) Constructed with chemical-resistant water stops in place at all joints (if any);

(iv) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

(A) Meets the definition of ignitable waste under section 11-261-21, or

(B) Meets the definition of reactive waste under section 11-261-23 and may form an ignitable or explosive vapor; and

(vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double-walled tanks must be:

(i) Designed as an integral structure (i.e., an inner tank within an outer shell) so that any release from the inner tank is contained by the outer shell;

(ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and the external surface of the outer shell; and

(iii) Provided with a built-in, continuous leak detection system capable of detecting a release within twenty-four hours or at the earliest practicable time, if the owner or operator can demonstrate to the director, and the director concurs, that the existing leak detection technology or site conditions will not allow detection of a release within twenty-four hours.

(f) Ancillary equipment must be provided with full secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of subsections (b) and (c) except for:

(1) Aboveground piping (exclusive of flanges, joints, valves, and connections) that are visually inspected for leaks on a daily basis;

(2) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;
(3) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and
(4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(g) The owner or operator may obtain a variance from the requirements of this section if the director finds, as a result of a demonstration by the owner or operator, either: that alternative design and operating practices, together with location characteristics, will prevent the migration of hazardous waste or hazardous constituents into the ground water or surface water at least as effectively as secondary containment during the active life of the tank system or that in the event of a release that does migrate to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (g)(2), be exempted from the secondary containment requirements of this section. Application for a variance as allowed in subsection (g) does not waive compliance with the requirements of this subchapter for new tank systems.

(1) In deciding whether to grant a variance based on a demonstration of equivalent protection of ground water and surface water, the director will consider:
(i) The nature and quantity of the waste;
(ii) The proposed alternate design and operation;
(iii) The hydrogeologic setting of the facility, including the thickness of soils between the tank system and ground water; and
(iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water.

(2) In deciding whether to grant a variance, based on a demonstration of no substantial present or potential hazard, the director will consider:
(i) The potential adverse effects on ground water, surface water, and land quality taking into account:
(A) The physical and chemical characteristics of the waste in the tank system, including its potential for migration,
(B) The hydrogeological characteristics of the facility and surrounding land,
(C) The potential for health risks caused by

human exposure to waste constituents,
(D) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and
(E) The persistence and permanence of the potential adverse effects;
(ii) The potential adverse effects of a release on ground-water quality, taking into account:
(A) The quantity and quality of ground water and the direction of ground-water flow,
(B) The proximity and withdrawal rates of water in the area,
(C) The current and future uses of ground water in the area, and
(D) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;
(iii) The potential adverse effects of a release on surface water quality, taking into account:
(A) The quantity and quality of ground water and the direction of ground-water flow,
(B) The patterns of rainfall in the region,
(C) The proximity of the tank system to surface waters,
(D) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and
(E) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality; and
(iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:
(A) The patterns of rainfall in the region, and
(B) The current and future uses of the surrounding land.

(3) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1), at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), must:
(i) Comply with the requirements of section 11-265-196, except subsection 11-265-196(d); and
(ii) Decontaminate or remove contaminated soil to the extent necessary to:
(A) Enable the tank system, for which the

variance was granted, to resume operation with the capability for the detection of and response to releases at least equivalent to the capability it had prior to the release, and

(B) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

(iii) If contaminated soil cannot be removed or decontaminated in accordance with subparagraph (g)(3)(ii), comply with the requirements of subsection 11-265-197(b);

(4) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1), at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of subsections 11-265-196(a) through (d); and

(ii) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed, or if ground water has been contaminated, the owner or operator must comply with the requirements of subsection 11-265-197(b);

(iii) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of subsections (a) through (f) or reapply for a variance from secondary containment and meet the requirements for new tank systems in section 11-265-192 if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed, and ground water or surface water has not been contaminated.

(h) The following procedures must be followed in order to request a variance from secondary containment:

(1) The director must be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in subsection (g) according to the following schedule:

(i) For existing tank systems, at least twenty-four months prior to the date that secondary containment must be provided in accordance with

subsection (a); and

(ii) For new tank systems, at least thirty days prior to entering into a contract for installation of the tank system.

(2) As part of the notification, the owner or operator must also submit to the director a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in paragraph (g)(1) or (g)(2).

(3) The demonstration for a variance must be completed and submitted to the director within one-hundred and eighty days after notifying the director of intent to conduct the demonstration.

(4) The director will inform the public, through a newspaper notice, of the availability of the demonstration for a variance. The notice shall be placed in a daily or weekly major local newspaper of general circulation and shall provide at least thirty days from the date of the notice for the public to review and comment on the demonstration for a variance. The director also will hold a public hearing, in response to a request or at his own discretion, whenever such a hearing might clarify one or more issues concerning the demonstration for a variance. Public notice of the hearing will be given at least thirty days prior to the date of the hearing and may be given at the same time as notice of the opportunity for the public to review and comment on the demonstration. These two notices may be combined.

(5) The director will approve or disapprove the request for a variance within ninety days of receipt of the demonstration from the owner or operator and will notify in writing the owner or operator and each person who submitted written comments or requested notice of the variance decision. If the demonstration for a variance is incomplete or does not include sufficient information, the ninety day time period will begin when the director receives a complete demonstration, including all information necessary to make a final determination. If the public comment period in paragraph (h)(4) is extended, the ninety day time period will be similarly extended.

(i) All tank systems, until such time as secondary containment meeting the requirements of this section is provided, must comply with the following:

(1) For non-enterable underground tanks, a leak test that meets the requirements of paragraph 11-265-191(b)(5) must be conducted at least annually;

(2) For other than non-enterable underground tanks and for

all ancillary equipment, an annual leak test, as described in paragraph (i)(1), or an internal inspection or other tank integrity examination by an independent, qualified, registered professional engineer that addresses cracks, leaks, corrosion, and erosion must be conducted at least annually. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed.

(3) The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with paragraphs (i)(1) through (i)(3).

(4) If a tank system or component is found to be leaking or unfit-for-use as a result of the leak test or assessment in paragraphs (i)(1) through (i)(3), the owner or operator must comply with the requirements of section 11-265-196. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.193)

§11-265-194 General operating requirements. (a) Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the secondary containment system to rupture, leak, corrode, or otherwise fail.

(b) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum:

(1) Spill prevention controls (e.g , check valves, dry discount couplings);

(2) Overfill prevention controls (e.g , level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The owner or operator must comply with the requirements of section 11-265-196 if a leak or spill occurs in the tank system. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.194)

§11-265-195 Inspections. (a) The owner or operator must inspect, where present, at least once each operating day:

(1) Overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

(2) The aboveground portions of the tank system, if any, to

detect corrosion or releases of waste;

(3) Data gathered from monitoring equipment and leak-detection equipment, (e.g., pressure and temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

(4) The construction materials and the area immediately surrounding the externally accessible portion of the tank system including secondary containment structures (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation);

(b) The owner or operator must inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

(1) The proper operation of the cathodic protection system must be confirmed within six months after initial installation, and annually thereafter; and

(2) All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (i.e., every other month).

(c) The owner or operator must document in the operating record of the facility an inspection of those items in subsections (a) and (b). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.195)

§11-265-196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems. A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements:

(a) Cessation of use; prevent flow or addition of wastes. The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(b) Removal of waste from tank system or secondary containment system.

(1) If the release was from the tank system, the owner or operator must, within twenty-four hours after detection of the leak or, if the owner or operator demonstrates that that is not possible, at the earliest practicable time remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the release was to a secondary containment system, all released materials must be removed within twenty-four hours or in as timely a manner as is possible to

prevent harm to human health and the environment.

(c) Containment of visible releases to the environment. The owner or operator must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) Prevent further migration of the leak or spill to soils or surface water; and

(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) Notifications, reports.

(1) Any release to the environment, except as provided in paragraph (d)(2), must be reported to the director within twenty-four hours of detection.

(2) A leak or spill of hazardous waste that is:

(i) Less than or equal to a quantity of one (1) pound, and

(ii) Immediately contained and cleaned-up is exempted from the requirements of this subsection.

(3) Within thirty days of detection of a release to the environment, a report containing the following information must be submitted to the director:

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(iii) Results of any monitoring or sampling conducted in connection with the release, (if available). If sampling or monitoring data relating to the release are not available within thirty days, these data must be submitted to the director as soon as they become available;

(iv) Proximity to downgradient drinking water, surface water, and population areas; and

(v) Description of response actions taken or planned.

(e) Provision of secondary containment, repair, or closure.

(1) Unless the owner or operator satisfies the requirements of paragraphs (e)(2) through (e)(4), the tank system must be closed in accordance with section 11-265-197.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the

requirements of section 11-265-193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of subsection (f) are satisfied. If a component is replaced to comply with the requirements of this subsection, that component must satisfy the requirements for new tank systems or components in sections 11-265-192 and 11-265-193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with section 11-265-193 prior to being returned to use.

(f) Certification of major repairs. If the owner or operator has repaired a tank system in accordance with subsection (e), and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by an independent, qualified, registered professional engineer in accordance with subsection 11-270-11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be submitted to the director within seven days after returning the tank system to use. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.196)

§11-265-197 Closure and post-closure care. (a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless subsection 11-261-3(d) applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in subchapters G and H.

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in subsection (a), then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (section 11-265-310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or

operator must meet all of the requirements for landfills specified in subchapters G and H.

(c) If an owner or operator has a tank system which does not have secondary containment that meets the requirements of subsections 11-265-193(b) through (f) and which is not exempt from the secondary containment requirements in accordance with subsection 11-265-193(g), then,

(1) The closure plan for the tank system must include both a plan for complying with subsection (a) and a contingent plan for complying with subsection (b).

(2) A contingent post-closure plan for complying with subsection (b) must be prepared and submitted as part of the permit application.

(3) The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if these costs are greater than the costs of complying with the closure plan prepared for the expected closure under subsection (a).

(4) Financial assurance must be based on the cost estimates in paragraph (c)(3).

(5) For the purposes of the contingent closure and post-closure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, post-closure, and financial responsibility requirements for landfills under subchapters G and H. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.197)

§11-265-198 Special requirements for ignitable or reactive wastes. (a) Ignitable or reactive waste must not be placed in a tank system, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under section 11-261-21 or 11-261-23 ; and

(ii) Subsection 11-265-17(b) is complied with; or

(2) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(3) The tank system is used solely for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is stored or treated in tanks must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required

in Tables 2-1 through 2-6 of the National Fire Protection Association's ``Flammable and Combustible Liquids Code,'' (1977 or 1981), (incorporated by reference, see section 11-260-11). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.198)

§11-265-199 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible waste and materials, must not be placed in the same tank system, unless subsection 11-265-17(b) is complied with.

(b) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless subsection 11-265-17(b) is complied with. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.199)

§11-265-200 Waste analysis and trial tests. In addition to performing the waste analysis required by section 11-265-13, the owner or operator must, whenever a tank system is to be used to treat chemically or to store a hazardous waste that is substantially different from waste previously treated or stored in that tank system; or treat chemically a hazardous waste with a substantially different process than any previously used in that tank system:

(a) Conduct waste analyses and trial treatment or storage tests (e.g., bench-scale or pilot-plant scale tests); or

(b) Obtain written, documented information on similar waste under similar operating conditions to show that the proposed treatment or storage will meet the requirements of subsection 11-265-194(a). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.200)

§11-265-201 Special requirements for generators of between one-hundred and one-thousand kilograms per month that accumulate hazardous waste in tanks. (a) The requirements of this section apply to small quantity generators of more than one-hundred kilograms but less than one-thousand kilograms of hazardous waste in a calendar month, that accumulate hazardous waste in tanks for less than one-hundred and eighty days (or two-hundred and seventy days if the generator must ship the waste greater than two-hundred miles), and do not accumulate over six-thousand kilograms on-site at any time.

(b) Generators of between one-hundred and one-thousand kilograms per month of hazardous waste must comply with the following general operating requirements:

(1) Treatment or storage of hazardous waste in tanks must comply with subsection 11-265-17(b).

(2) Hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(3) Uncovered tanks must be operated to ensure at least sixty centimeters (two feet) of freeboard, unless the tank is equipped with a containment structure (e.g., dike or trench), a drainage control system, or a diversion structure (e.g., standby tank) with a capacity that equals or exceeds the volume of the top sixty centimeters (two feet) of the tank.

(4) Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this inflow (e.g., waste feed cutoff system or by-pass system to a stand-by tank).

(c) Generators of between one-hundred and one-thousand kilograms per month accumulating hazardous waste in tanks must inspect, where present:

(1) Discharge control equipment (e.g., waste feed cutoff systems, by-pass systems, and drainage systems) at least once each operating day, to ensure that it is in good working order;

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges) at least once each operating day to ensure that the tank is being operated according to its design;

(3) The level of waste in the tank at least once each operating day to ensure compliance with paragraph (b)(3);

(4) The construction materials of the tank at least weekly to detect corrosion or leaking of fixtures or seams; and

(5) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes) at least weekly to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

(d) Generators of between one-hundred and one-thousand kilograms per month accumulating hazardous waste in tanks must, upon closure of the facility, remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures.

(e) Generators of between one-hundred and one-thousand kilograms per month must comply with the following special requirements for ignitable or reactive waste:

(1) Ignitable or reactive waste must not be placed in a tank, unless:

(i) The waste is treated, rendered, or mixed before or immediately after placement in a tank so that

(A) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under section 11-261-21 or section 11-261-23, and

(B) subsection 11-265-17(b) is complied with; or

(ii) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(iii) The tank is used solely for emergencies.

(2) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks must comply with the buffer zone requirements for tanks contained in Tables 2-1 through 2-6 of the National Fire Protection Association's ``Flammable and Combustible Liquids Code,'' (1977 or 1981) (incorporated by reference, see section 11-260-11).

(f) Generators of between one-hundred and one-thousand kilograms per month must comply with the following special requirements for incompatible wastes:

(1) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same tank, unless subsection 11-265-17(b) is complied with.

(2) Hazardous waste must not be placed in an unwashed tank which previously held an incompatible waste or material, unless subsection 11-265-17(b) is complied with. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.201)

§11-265-202 Air emission standards. The owner or operator shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of subchapters AA, BB, and CC. [Eff 3/13/99; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.202) (Imp: 40 C.F.R. §265.202)

SUBCHAPTER K

SURFACE IMPOUNDMENTS

§11-265-220 Applicability. The rules in this subchapter apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as section 11-265-1 provides otherwise. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.220)

§11-265-220.1 Interim status surface impoundments. (a) Except as provided in subsection (c), (d), or (e), an interim status surface impoundment shall not receive, store, or treat hazardous waste unless such surface impoundment is in compliance with the requirements of 42 U.S.C. section 6924(o)(1)(A) (1994) which would apply to such impoundment if it were new.

(b) Owners and operators of interim status surface impoundments shall comply with subsection (a) by the following dates:

(1) Each surface impoundment required by 42 U.S.C. section 6925(j)(1) to be in compliance with the requirements of 42 U.S.C. § 6924(o)(1)(A) on or before the effective date of the State rules, shall be in compliance with those requirements by the effective date of the State rules.

(2) In the case of any surface impoundment which becomes subject to subsection (a) after the effective date of the State rules due to the promulgation of additional listings or characteristics for the identification of hazardous waste under section 11-261-10 or 11-261-11, the period for compliance shall be four years after the date of such promulgation, the period for demonstrations under subsection (e) and for submission of evidence under subsection (f) shall be not later than twenty-four months after the date of such promulgation, and the period for the director to advise such owners or operators under subsection (f) shall be not later than thirty-six months after the date of promulgation.

(3) On or after the effective date of the State rules, in any case in which a surface impoundment is initially determined to be excluded from the requirements of subsection (a) but due to a change in condition (including the existence of a leak) no longer satisfies the provisions of subsection (c), (d), or (e) and therefore becomes subject to subsection (a), the period for compliance with subsection (a) shall be two years after the date of discovery of such change of condition, or in the case of a surface impoundment excluded under subsection (d) three years after such date of discovery.

(c) Subsection (a) shall not apply to any surface impoundment which:

(1) Has at least one liner, for which there is no evidence that such liner is leaking;

(2) Is located more than one-quarter mile from an underground source of drinking water; and

(3) Is in compliance with generally applicable ground water monitoring requirements for facilities with permits.

(d) Subsection (a) shall not apply to any surface

impoundment which qualifies for an exemption under 42 U.S.C. § 6925(j)(3) (1994).

(e) The director, after notice and opportunity for comment, may modify the requirements of subsection (a) for any surface impoundment if the owner or operator demonstrates that such surface impoundment is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into the ground water or surface water at any future time. The director shall take into account the location of the surface impoundment.

(f) The owner or operator of any surface impoundment potentially subject to subsection (a) who has reason to believe on the basis of subsection (c), (d), or (e) that such surface impoundment is not required to comply with the requirements of subsection (a), shall apply to the director not later than twenty-four months after a surface impoundment has become subject to subsection (a) due to the promulgation of additional listings or characteristics for the identification of hazardous waste under section 11-261-10 or 11-261-11 for a determination of the applicability of subsection (a) (in the case of subsection (c) or (d)) or for a modification of the requirements of subsection (a) (in the case of subsection (e)), with respect to such surface impoundment. Such owner or operator shall provide, with such application, evidence pertinent to such decision, including:

(1) An application for a final determination regarding the issuance of a permit for such facility, if not previously submitted;

(2) Evidence as to compliance with all applicable ground water monitoring requirements and the information and analysis from such monitoring;

(3) All reasonably ascertainable evidence as to whether such surface impoundment is leaking; and

(4) In the case of applications under subsection (c) or (d), a certification by a registered professional engineer with academic training and experience in ground water hydrology that:

(A) Under subsection (c), the liner of such surface impoundment is designed, constructed, and operated in accordance with applicable requirements, such surface impoundment is more than one-quarter mile from an underground source of drinking water and there is no evidence such liner is leaking; or

(B) Under subsection (d), based on analysis of those toxic pollutants and hazardous constituents that are likely to be present in the untreated waste stream, such impoundment satisfies the conditions of subsection (d).

Within twelve months after receipt of such application and evidence and after notice and opportunity to comment, the director shall advise such owner or operator on the applicability

of subsection (a) to such surface impoundment or as to whether and how the requirements of subsection (a) shall be modified and applied to such surface impoundment.

(g) In the case of any surface impoundment for which the owner or operator fails to apply under subsection (f) within the time provided by subsection (f) or paragraph (b)(3) or (b)(4), such surface impoundment shall comply with subsection (a) notwithstanding subsections (c), (d), and (e).

(h) For the purposes of paragraph (c)(1), the term "liner" means:

(1) A liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility; or

(2) A liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. [Eff 3/13/99; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 42 U.S.C. §6925(j))

§11-265-221 Design and operating requirements. (a) The owner or operator of each new surface impoundment unit on which construction commences after January 29, 1992, each lateral expansion of a surface impoundment unit on which construction commences after July 29, 1992, and each replacement of an existing surface impoundment unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system between such liners, and operate the leachate collection and removal system, in accordance with subsection 11-264-221(c), unless exempted under subsection 11-264-221(d), (e), or (f). "Construction commences" is as defined in section 11-260-10 under "existing facility".

(b) The owner or operator of each unit referred to in subsection (a) must notify the director at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) The owner or operator of any replacement surface impoundment unit is exempt from subsection (a) if:

(1) The existing unit was constructed in compliance with the design standards of § 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act (1984); and

(2) There is no reason to believe that the liner is not functioning as designed.

(d) The double liner requirement set forth in subsection (a) may be waived by the director for any monofill, if:

(1) The monofill contains only hazardous wastes from

foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the Toxicity Characteristic in section 11-261-24, with EPA Hazardous Waste Numbers D004 through D017; and

(2) (i) (A) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of this subsection the term ``liner'' means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, ground water, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of subsection (a) on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment must comply with appropriate post-closure requirements, including but not limited to ground-water monitoring and corrective action;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 40 CFR 144.3 (1998)); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under HRS section 342J-5; or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements

of subsection (a) of this section and in good faith compliance with subsection (a) of this section and with guidance documents governing liners and leachate collection systems under subsection (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to subsection (a) of this section will be required for such unit by the director when issuing the first permit to such facility, except that the director will not be precluded from requiring installation of a new liner when the director has reason to believe that any liner installed pursuant to the requirements of subsection (a) of this section is leaking.

(f) A surface impoundment must maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. Except as provided in subsection (b), there must be at least sixty centimeters (two feet) of freeboard.

(g) A freeboard level less than sixty centimeters (two feet) may be maintained if the owner or operator obtains certification by a qualified engineer that alternate design features or operating plans will, to the best of his knowledge and opinion, prevent overtopping of the dike. The certification, along with a written identification of alternate design features or operating plans preventing overtopping, must be maintained at the facility.

(h) Surface impoundments that are newly subject to RCRA section 3005(j)(1) (42 U.S.C. § 6925 (1984)) due to the promulgation of additional listings or characteristics for the identification of hazardous waste must be in compliance with subsections (a), (c) and (d) not later than 48 months after the promulgation of the additional listing or characteristic. This compliance period shall not be cut short as the result of the promulgation of land disposal prohibitions under chapter 11-268 or the granting of an extension to the effective date of a prohibition pursuant to section 11-268-5, within this 48-month period. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.221)

§11-265-222 Action leakage rate. (a) The owner or operator of surface impoundment units subject to subsection 11-265-221(a) must submit a proposed action leakage rate to the director when submitting the notice required under subsection 11-265-221(b). Within sixty days of receipt of the notification, the director will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to thirty days. If no action is taken by the director before the original sixty or extended ninety day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The director shall approve an action leakage rate for surface impoundment units subject to subsection 11-265-221(a).

The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g, the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under subsection 11-265-226(b), to an average daily flow rate (gallons per acre per day) for each sump. Unless the director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and if the unit closes in accordance with paragraph 11-265-228(a)(2), monthly during the post-closure care period when monthly monitoring is required under subsection 11-265-226(b). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.222)

§11-265-222.1 Containment system. All earthen dikes must have a protective cover, such as grass, shale, or rock, to minimize wind and water erosion and to preserve their structural integrity. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.223)

§11-265-223 Response actions. (a) The owner or operator of surface impoundment units subject to subsection 11-265-221(a) must submit a response action plan to the director when submitting the proposed action leakage rate under section 11-265-222. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in subsection (b).

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the director in writing of the exceedance within seven days of the determination;

(2) Submit a preliminary written assessment to the director within fourteen days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;
(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;
(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and
(6) Within thirty days after the notification that the action leakage rate has been exceeded, submit to the director the results of the analyses specified in paragraphs (b)(3), (b)(4), and (b)(5), the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (b)(4), and (b)(5), the owner or operator must:

(1) (i) Assess the source of liquids and amounts of liquids by source,
(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and
(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or
(2) Document why such assessments are not needed. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.223)

§11-265-224 [Reserved]

§11-265-225 Waste analysis and trial tests. (a) In addition to the waste analyses required by section 11-265-13, whenever a surface impoundment is to be used to:

(1) Chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment; or
(2) Chemically treat hazardous waste with a substantially different process than any previously used in that impoundment; the owner or operator must, before treating the different waste or using the different process:
(i) Conduct waste analyses and trial treatment tests

(e.g., bench scale or pilot plant scale tests); or

(ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions; to show that this treatment will comply with subsection 11-265-17(b). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.225)

§11-265-226 Monitoring and inspection. (a) The owner or operator must inspect:

(1) The freeboard level at least once each operating day to ensure compliance with section 11-265-222, and

(2) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration, or failures in the impoundment.

(b) (1) An owner or operator required to have a leak detection system under subsection 11-265-221(a) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the director based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the proposed "pump operating level" will be in accordance with subsection 11-265-222(a). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R.

§265.226)

§11-265-227 [Reserved]

§11-265-228 Closure and post-closure care. (a) At closure, the owner or operator must:

(1) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless subsection 11-261-3(d) applies; or

(2) Close the impoundment and provide post-closure care for a landfill under subchapter G and section 11-265-310, including the following:

(i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(ii) Stabilize remaining wastes to a bearing capacity sufficient to support the final cover; and

(iii) Cover the surface impoundment with a final cover designed and constructed to:

(A) Provide long-term minimization of the migration of liquids through the closed impoundment;

(B) Function with minimum maintenance;

(C) Promote drainage and minimize erosion or abrasion of the cover;

(D) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) In addition to the requirements of subchapter G, and section 11-265-310, during the post-closure care period, the owner or operator of a surface impoundment in which wastes, waste residues, or contaminated materials remain after closure in accordance with the provisions of paragraph (a)(2) must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Maintain and monitor the leak detection system in accordance with subparagraphs 11-265-221(c)(2)(iv) and paragraph 11-265-221(c)(3) and subsection 11-265-226(b) and comply with all other applicable leak detection system requirements of this chapter;

(3) Maintain and monitor the ground-water monitoring system

and comply with all other applicable requirements of subchapter F; and

(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.228)

§11-265-229 Special requirements for ignitable or reactive waste. Ignitable or reactive waste must not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of chapter 11-268, and:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under section 11-261-21 or section 11-261-23; and

(2) Subsection 11-265-17(b) is complied with; or

(b)(1) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; and

(2) The owner or operator obtains a certification from a qualified chemist or engineer that, to the best of his knowledge and opinion, the design features or operating plans of the facility will prevent ignition or reaction; and

(3) The certification and the basis for it are maintained at the facility; or

(c) The surface impoundment is used solely for emergencies. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.229)

§11-265-230 Special requirements for incompatible wastes. Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same surface impoundment, unless subsection 11-265-17(b) is complied with. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.230)

§11-265-231 Air emission standards. The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the applicable requirements of subchapters BB and CC. [Eff 3/13/99; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.231)

SUBCHAPTER L

WASTE PILES

§11-265-250 Applicability. The rules in this subchapter apply to owners and operators of facilities that treat or store hazardous waste in piles, except as section 11-265-1 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under subchapter N. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.250)

§11-265-251 Protection from wind. The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind must cover or otherwise manage the pile so that wind dispersal is controlled. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.251)

§11-265-252 Waste analysis. In addition to the waste analyses required by section 11-265-13, the owner or operator must analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, unless:

(1) The only wastes the facility receives which are amenable to piling are compatible with each other; or

(2) The waste received is compatible with the waste in the pile to which it is to be added.

The analysis conducted must be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis must include a visual comparison of color and texture. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.252)

§11-265-253 Containment. If leachate or run-off from a pile is a hazardous waste, then either:

(a)(1) The pile must be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage;

(2) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a twenty-five year storm;

(3) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and

control at least the water volume resulting from a twenty-four hour, twenty-five year storm; and

(4) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously to maintain design capacity of the system; or

(b)(1) The pile must be protected from precipitation and run-on by some other means; and

(2) No liquids or wastes containing free liquids may be placed in the pile. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.253)

§11-265-254 Design and operating requirements. The owner or operator of each new waste pile on which construction commences after January 29, 1992, each lateral expansion of a waste pile unit on which construction commences after July 29, 1992, and each such replacement of an existing waste pile unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with subsection 11-264-251(c), unless exempted under subsection 11-264-251(d), (e), or (f); and must comply with the procedures of subsection 11-265-221(b). "Construction commences" is as defined in section 11-260-10 under "existing facility". [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.254)

§11-265-255 Action leakage rates. (a) The owner or operator of waste pile units subject to section 11-265-254 must submit a proposed action leakage rate to the director when submitting the notice required under section 11-265-254. Within 60 days of receipt of the notification, the director will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to 30 days. If no action is taken by the director before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The director shall approve an action leakage rate for waste pile units subject to section 11-265-254. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of

drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under section 11-265-260, to an average daily flow rate (gallons per acre per day) for each sump. Unless the director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period. [Eff 6/18/94; am 3/13/99; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.255)

§11-265-256 Special requirements for ignitable or reactive waste. (a) Ignitable or reactive waste must not be placed in a pile unless the waste and pile satisfy all applicable requirements of chapter 11-268, and:

(1) Addition of the waste to an existing pile

(i) results in the waste or mixture no longer meeting the definition of ignitable or reactive waste under section 11-261-21 or section 11-261-23, and

(ii) complies with subsection 11-265-17(b); or

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.256)

§11-265-257 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same pile, unless subsection 11-265-17(b) is complied with.

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

(c) Hazardous waste must not be piled on the same area where incompatible wastes or materials were previously piled, unless that area has been decontaminated sufficiently to ensure compliance with subsection 11-265-17(b). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.257)

§11-265-258 Closure and post-closure care. (a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless subsection 11-261-3(d) applies; or

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in subsection (a), the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (section 11-265-310). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.258)

§11-265-259 Response actions. (a) The owner or operator of waste pile units subject to section 11-265-254 must submit a response action plan to the director when submitting the proposed action leakage rate under section 11-265-255. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in subsection (b).

(b) If the flow rate into the leak determination system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the director in writing of the exceedance within 7 days of the determination;

(2) Submit a preliminary written assessment to the director within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipts should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the director the results of the analyses specified in paragraphs (b)(3), (4), and (5), the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5), the owner or operator must:

(1) (i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.259)

§11-265-260 Monitoring and inspection. An owner or operator required to have a leak detection system under section 11-265-254 must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.260)

SUBCHAPTER M

LAND TREATMENT

§11-265-270 Applicability. The rules in this subchapter apply to owners and operators of hazardous waste land treatment facilities, except as section 11-265-1 provides otherwise. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.270)

§11-265-271 [Reserved]

§11-265-272 General operating requirements. (a) Hazardous waste must not be placed in or on a land treatment facility unless the waste can be made less hazardous or nonhazardous by degradation, transformation, or immobilization processes occurring in or on the soil.

(b) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portions of the facility during peak discharge from at least a twenty-five year storm.

(c) The owner or operator must design, construct, operate, and maintain a run-off management system capable of collecting

and controlling a water volume at least equivalent to a twenty-four hour, twenty-five year storm.

(d) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(e) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.272)

§11-265-273 Waste analysis. In addition to the waste analyses required by section 11-265-13, before placing a hazardous waste in or on a land treatment facility, the owner or operator must:

(a) Determine the concentrations in the waste of any substances which equal or exceed the maximum concentrations contained in Table 1 of section 11-261-24 that cause a waste to exhibit the Toxicity Characteristic;

(b) For any waste listed in chapter 11-261, subchapter D, determine the concentrations of any substances which caused the waste to be listed as a hazardous waste; and

(c) If food chain crops are grown, determine the concentrations in the waste of each of the following constituents: arsenic, cadmium, lead, and mercury, unless the owner or operator has written, documented data that show that the constituent is not present. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.273)

§§ 11-265-274 -- 11-265-275 [Reserved]

§11-265-276 Food chain crops. (a) An owner or operator of a hazardous waste land treatment facility on which food chain crops are being grown, or have been grown and will be grown in the future, must notify the director of such use of the land.

(b)(1) Food chain crops must not be grown on the treated area of a hazardous waste land treatment facility unless the owner or operator can demonstrate, based on field testing, that any arsenic, lead, mercury, or other constituents identified under subsection 11-265-273(b):

(i) Will not be transferred to the food portion of the crop by plant uptake or direct contact, and will

not otherwise be ingested by food chain animals (e.g., by grazing); or

(ii) Will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils under similar conditions in the same region.

(2) The information necessary to make the demonstration required by paragraph (b)(1) must be kept at the facility and must, at a minimum:

(i) Be based on tests for the specific waste and application rates being used at the facility; and

(ii) Include descriptions of crop and soil characteristics, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

(c) Food chain crops must not be grown on a land treatment facility receiving waste that contains cadmium unless all requirements of paragraphs (c)(1)(i) through (c)(1)(iii) or all requirements of paragraphs (c)(2)(i) through (c)(2)(iv) are met.

(1) (i) The pH of the waste and soil mixture is 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food chain crops, the annual cadmium application rate does not exceed:

Time period	Annual Cd application rate (kg/ha)
Present to June 30, 1984	2.0
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987	0.5

(iii) The cumulative application of cadmium from waste does not exceed the levels in either clause (c)(1)(iii)(A) or (c)(1)(iii)(B).

(A)

	Maximum cumulative application (kg/ha)	
Soil caption exchange capacity (meq/100g)	Background soil pH less than 6.5	Background soil pH greater than 6.5
Less than 5	5	5
5 to 15	5	10
Greater than 15	5	20

(B) For soils with a background pH of less than 6.5, the cumulative cadmium application rate does not exceed the levels below: Provided, that the pH of the waste and soil mixture is adjusted to and maintained at 6.5 or greater whenever food chain crops are grown.

Soil caption exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)
Less than 5	5
5 to 15	10
Greater than 15	20

(2) (i) The only food chain crop produced is animal feed.

(ii) The pH of the waste and soil mixture is 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown.

(iii) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain,

which may result from alternative land uses.

(iv) Future property owners are notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food chain crops must not be grown except in compliance with paragraph (c)(2). [Eff 6/19/94; am 3/13/99; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.276)

§11-265-277 [Reserved]

§11-265-278 Unsaturated zone (zone of aeration) monitoring.

(a) The owner or operator must have in writing, and must implement, an unsaturated zone monitoring plan which is designed to:

(1) Detect the vertical migration of hazardous waste and hazardous waste constituents under the active portion of the land treatment facility, and

(2) Provide information on the background concentrations of the hazardous waste and hazardous waste constituents in similar but untreated soils nearby; this background monitoring must be conducted before or in conjunction with the monitoring required under paragraph (a)(1).

(b) The unsaturated zone monitoring plan must include, at a minimum:

(1) Soil monitoring using soil cores, and

(2) Soil-pore water monitoring using devices such as lysimeters.

(c) To comply with paragraph (a)(1), the owner or operator must demonstrate in his unsaturated zone monitoring plan that:

(1) The depth at which soil and soil-pore water samples are to be taken is below the depth to which the waste is incorporated into the soil;

(2) The number of soil and soil-pore water samples to be taken is based on the variability of:

(i) The hazardous waste constituents (as identified in subsections 11-265-273(a) and 11-265-273(b)) in the waste and in the soil; and

(ii) The soil type(s); and

(3) The frequency and timing of soil and soil-pore water sampling is based on the frequency, time, and rate of waste application, proximity to ground water, and soil permeability.

(d) The owner or operator must keep at the facility his unsaturated zone monitoring plan, and the rationale used in developing this plan.

(e) The owner or operator must analyze the soil and

soil-pore water samples for the hazardous waste constituents that were found in the waste during the waste analysis under subsections 11-265-273(a) and 11-265-273(b). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.278)

§11-265-279 Recordkeeping. The owner or operator must include hazardous waste application dates and rates in the operating record required under section 11-265-73. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.279)

§11-265-280 Closure and post-closure. (a) In the closure plan under section 11-265-112 and the post-closure plan under section 11-265-118, the owner or operator must address the following objectives and indicate how they will be achieved:

(1) Control of the migration of hazardous waste and hazardous waste constituents from the treated area into the ground water;
(2) Control of the release of contaminated run-off from the facility into surface water;
(3) Control of the release of airborne particulate contaminants caused by wind erosion; and
(4) Compliance with section 11-265-276 concerning the growth of food-chain crops.

(b) The owner or operator must consider at least the following factors in addressing the closure and post-closure care objectives of subsection (a):

(1) Type and amount of hazardous waste and hazardous waste constituents applied to the land treatment facility;
(2) The mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;
(3) Site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration (e.g., proximity to ground water, surface water and drinking water sources);
(4) Climate, including amount, frequency, and pH of precipitation;
(5) Geological and soil profiles and surface and subsurface hydrology of the site, and soil characteristics, including cation exchange capacity, total organic carbon, and pH;
(6) Unsaturated zone monitoring information obtained under section 11-265-278; and
(7) Type, concentration, and depth of migration of hazardous waste constituents in the soil as compared to their background concentrations.

(c) The owner or operator must consider at least the

following methods in addressing the closure and post-closure care objectives of subsection (a):

(1) Removal of contaminated soils;

(2) Placement of a final cover, considering:

(i) Functions of the cover (e.g., infiltration control, erosion and run-off control, and wind erosion control); and

(ii) Characteristics of the cover, including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover; and

(3) Monitoring of ground water.

(d) In addition to the requirements of subchapter G, during the closure period the owner or operator of a land treatment facility must:

(1) Continue unsaturated zone monitoring in a manner and frequency specified in the closure plan, except that soil pore liquid monitoring may be terminated ninety days after the last application of waste to the treatment zone;

(2) Maintain the run-on control system required under subsection 11-265-272(b);

(3) Maintain the run-off management system required under subsection 11-265-272(c); and

(4) Control wind dispersal of particulate matter which may be subject to wind dispersal.

(e) For the purpose of complying with section 11-265-115, when closure is completed the owner or operator may submit to the director certification both by the owner or operator and by an independent qualified soil scientist, in lieu of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(f) In addition to the requirements of section 11-265-117, during the post-closure care period the owner or operator of a land treatment unit must:

(1) Continue soil-core monitoring by collecting and analyzing samples in a manner and frequency specified in the post-closure plan;

(2) Restrict access to the unit as appropriate for its post-closure use;

(3) Assure that growth of food chain crops complies with section 11-265-276; and

(4) Control wind dispersal of hazardous waste. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.280)

§11-265-281 Special requirements for ignitable or reactive waste. The owner or operator must not apply ignitable or

reactive waste to the treatment zone unless the waste and treatment zone meet all applicable requirements of chapter 11-268, and:

(a) The waste is immediately incorporated into the soil so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under section 11-261-21 or section 11-261-23 ; and

(2) Subsection 11-264-17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.281)

§11-265-282 Special requirements for incompatible wastes. Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples), must not be placed in the same land treatment area, unless subsection 11-265-17(b) is complied with. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.282)

SUBCHAPTER N

LANDFILLS

§11-265-300 Applicability. The rules in this subchapter apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as section 11-265-1 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by this subchapter. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.300)

§11-265-301 Design and operating requirements. (a) The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with subsection 11-264-301(d), (e), or (f). "Construction commences" is as defined in section 11-260-10 under "existing facility".

(b) The owner or operator of each unit referred to in subsection (a) must notify the director at least sixty days prior

to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) The owner or operator of any replacement landfill unit is exempt from subsection (a) if:

(1) The existing unit was constructed in compliance with the design standards of section 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act (1984); and

(2) There is no reason to believe that the liner is not functioning as designed.

(d) The double liner requirement set forth in subsection (a) may be waived by the director for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such waste does not contain constituents which would render the wastes hazardous for reasons other than the Toxicity Characteristic in section 11-261-24, with EPA Hazardous Waste Number D004 through D017; and

(2) (i) (A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 40 CFR 144.3 (1998)); and

(C) The monofill is in compliance with generally applicable ground-water monitoring requirements for facilities with permits under HRS section 342J-5; or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of subsection (a) and in good faith compliance with subsection (a) and with guidance documents governing liners and leachate collection systems under subsection (a), no liner or leachate collection system which is different from that which was so installed pursuant to subsection (a) will be required for such unit by the director when issuing the first permit to such facility, except that the director will not be precluded from requiring installation of a new liner when the director has reason to believe that any liner installed pursuant to the requirements of subsection (a) is leaking.

(f) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow

onto the active portion of the landfill during peak discharge from at least a twenty-five year storm.

(g) The owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a twenty-four hour, twenty-five year storm.

(h) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(i) The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind must cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.301)

§11-265-302 Action leakage rate. (a) The owner or operator of landfill units subject to subsection 11-265-301(a) must submit a proposed action leakage rate to the director when submitting the notice required under subsection 11-265-301(b). Within sixty days of receipt of the notification, the director will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to thirty days. If no action is taken by the director before the original sixty or extended ninety day review periods, the action leakage rate will be approved as proposed by the owner or operator.

(b) The director shall approve an action leakage rate for surface impoundment units subject to subsection 11-265-301(a). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding one foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under section 11-265-304 to an average daily flow rate (gallons per acre per day) for each sump. Unless the director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and

monthly during the post-closure care period when monthly monitoring is required under subsection 11-265-304(b). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.302)

§11-265-303 Response actions. (a) The owner or operator of landfill units subject to subsection 11-265-301(a) must submit a response action plan to the director when submitting the proposed action leakage rate under section 11-265-302. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in subsection (b).

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the director in writing of the exceedance within seven days of the determination;

(2) Submit a preliminary written assessment to the director within fourteen days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within thirty days after the notification that the action leakage rate has been exceeded, submit to the director the results of the analyses specified in paragraphs (b)(3), (4), and (5), the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the director a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5), the owner or operator must:

(1) (i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.303)

§11-265-304 Monitoring and inspection. (a) An owner or operator required to have a leak detection system under subsection 11-265-301(a) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.

(b) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(c) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the director based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the proposed "pump operating level" will be in accordance with subsection 11-265-302(a). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.304)

§§ 11-265-305 -- 11-265-308 [Reserved]

§11-265-309 Surveying and recordkeeping. The owner or operator of a landfill must maintain the following items in the operating record required in section 11-265-73:

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each hazardous waste type within each cell. [Eff 6/18/94;] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.309)

§11-265-310 Closure and post-closure care. (a) At final

closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(1) Provide long-term minimization of migration of liquids through the closed landfill;
(2) Function with minimum maintenance;
(3) Promote drainage and minimize erosion or abrasion of the cover;
(4) Accommodate settling and subsidence so that the cover's integrity is maintained; and
(5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all post-closure requirements contained in sections 11-265-117 through 11-265-120 including maintenance and monitoring throughout the post-closure care period. The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;
(2) Maintain and monitor the leak detection system in accordance with subparagraph 11-264-301(c)(3)(iv) and paragraph 11-264-301(c)(4) and subsection 11-265-304(b), and comply with all other applicable leak detection system requirements of this chapter;
(3) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of subchapter F;
(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and
(5) Protect and maintain surveyed benchmarks used in complying with section 11-265-309. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.310)

§11-265-311 [Reserved]

§11-265-312 Special requirements for ignitable or reactive waste. (a) Except as provided in subsection (b), and in section 11-265-316, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meet all applicable requirements of chapter 11-268, and:

(1) The resulting waste, mixture, or dissolution or material no longer meets the definition of ignitable or reactive waste under section 11-261-21 or section 11-261-23; and

(2) Subsection 11-265-17(b) is complied with.

(b) Except for prohibited wastes which remain subject to treatment standards in subchapter D of chapter 11-268, ignitable wastes in containers may be landfilled without meeting the requirements of subsection (a), provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.312)

§11-265-313 Special requirements for incompatible wastes. Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same landfill cell, unless subsection 11-265-17(b) is complied with. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.313)

§11-265-314 Special requirements for bulk and containerized liquids.

(a) [Reserved]

(b) The placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.

(c) Containers holding free liquids must not be placed in a landfill unless:

(1) All free-standing liquid
  (i) has been removed by decanting, or other methods,
  (ii) has been mixed with sorbent or solidified so that free-standing liquid is no longer observed; or
  (iii) had been otherwise eliminated; or

(2) The container is very small, such as an ampule; or

(3) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) The container is a lab pack as defined in section 11-265-316 and is disposed of in accordance with section 11-265-316.

(d) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as

described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in section 11-260-11.

(e) [Reserved]

(f) Sorbents used to treat free liquids to be disposed of in landfills must be nonbiodegradable. Nonbiodegradable sorbents are: materials listed or described in paragraph (f)(1) of this section; materials that pass one of the tests in paragraph (f)(2) of this section; or materials that are determined by the department to be nonbiodegradable.

(1) Nonbiodegradable sorbents.

(i) Inorganic minerals, other inorganic materials, and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides/hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal/activated carbon); or

(ii) High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polysobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

(iii) Mixtures of these nonbiodegradable materials.

(2) Tests for nonbiodegradable sorbents.

(i) The sorbent material is determined to be nonbiodegradable under ASTM Method G21-70 (1984a) -- Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

(ii) The sorbent material is determined to be nonbiodegradable under ASTM Method G22-76 (1984b) -- Standard Practice for Determining Resistance of Plastics to Bacteria; or

(iii) The sorbent material is determined to be non-biodegradable under OECD test 301B: [CO_2 Evolution (Modified Sturm Test)].

(g) The placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the director, or the director determines, that:

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill

or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in 40 CFR 144.3 (1998)). [Eff 6/18/94; am 3/13/99; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.314)

§11-265-315 Special requirements for containers. Unless they are very small, such as an ampule, containers must be either:

(a) At least ninety percent full when placed in the landfill; or

(b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.315)

§11-265-316 Disposal of small containers of hazardous waste in overpacked drums (lab packs). Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the waste held therein. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the U.S. Department of Transportation (DOT) hazardous materials regulations (49 CFR Parts 173, 178 and 179), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR Parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with subsection 11-265-314(f), to completely sorb all of the liquid contents of the inside containers. The metal outer container must be full after it has been packed with inside containers and sorbent material.

(c) The sorbent material used must not be capable of

reacting dangerously with, being decomposed by, or being ignited by the contents of the inside container's in accordance with subsection 11-265-17(b).

(d) Incompatible wastes, as defined in subsection 11-260-10(a), must not be placed in the same outside container.

(e) Reactive waste, other than cyanide- or sulfide-bearing waste as defined in paragraph 11-261-23(a)(5), must be treated or rendered non-reactive prior to packaging in accordance with subsections (a) through (d). Cyanide- and sulfide-bearing reactive waste may be packaged in accordance with subsections (a) through (d) without first being treated or rendered non-reactive.

(f) Such disposal is in compliance with the requirements of chapter 11-268. Persons who incinerate lab packs according to the requirements in paragraph 11-268-42(c)(1) may use fiber drums in place of metal outer containers. Such fiber drums must meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in subsection (b). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.316)

SUBCHAPTER O

INCINERATORS

§11-265-340 Applicability. (a) The rules in this subchapter apply to owners and operators of hazardous waste incinerators (as defined in section 11-260-10), except as section 11-265-1 provides otherwise.

(b) Owners and operators of incinerators burning hazardous waste are exempt from all of the requirements of this subchapter, except section 11-265-351 (Closure), provided that the owner or operator has documented, in writing, that the waste would not reasonably be expected to contain any of the hazardous constituents listed in chapter 11-261, Appendix VIII, and such documentation is retained at the facility, if the waste to be burned is:

(1) Listed as a hazardous waste in chapter 11-261, subchapter D, solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(2) Listed as a hazardous waste in chapter 11-261, subchapter D, solely because it is reactive (Hazard Code R) for characteristics other than those listed in paragraphs 11-261-23(a)(4) and 11-261-23(a)(5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(3) A hazardous waste solely because it possesses the

characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under chapter 11-261, subchapter C; or

(4) A hazardous waste solely because it possesses the reactivity characteristics described by paragraph 11-261-23(a)(1), 11-261-23(a)(2), 11-261-23(a)(3), 11-261-23(a)(6), 11-261-23(a)(7), or 11-261-23(a)(8), and will not be burned when other hazardous wastes are present in the combustion zone. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.340)

§11-265-341 Waste analysis. In addition to the waste analyses required by section 11-265-13, the owner or operator must sufficiently analyze any waste which he has not previously burned in his incinerator to enable him to establish steady state (normal) operating conditions (including waste and auxiliary fuel feed and air flow) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

(a) Heating value of the waste;

(b) Halogen content and sulfur content in the waste; and

(c) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.341)

§§ 11-265-342 -- 11-265-344 [Reserved]

§11-265-345 General operating requirements. During start-up and shut-down of an incinerator, the owner or operator must not feed hazardous waste unless the incinerator is at steady state (normal) conditions of operation, including steady state operating temperature and air flow. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.345)

§11-265-346 [Reserved]

§11-265-347 Monitoring and inspections. The owner or operator must conduct, as a minimum, the following monitoring and inspections when incinerating hazardous waste:

(a) Existing instruments which relate to combustion and emission control must be monitored at least every fifteen minutes. Appropriate corrections to maintain

steady state combustion conditions must be made immediately either automatically or by the operator. Instruments which relate to combustion and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH, and relevant level controls.

(b) The complete incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.347)

§§ 11-265-348 -- 11-265-350 [Reserved]

§11-265-351 Closure. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber waters, and scrubber sludges) from the incinerator. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.351)

§11-265-352 Interim status incinerators burning particular hazardous wastes. (a) Owners or operators of incinerators subject to this subchapter may burn EPA Hazardous Wastes FO20, FO21, FO22, FO23, FO26, or FO27 if they receive a certification from the director that they can meet the performance standards of subchapter O of chapter 11-264 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify an incinerator:

(1) The owner or operator will submit an application to the director containing applicable information in sections 11-270-19 and 11-270-62 demonstrating that the incinerator can meet the performance standards in subchapter O of chapter 11-264 when they burn these wastes.

(2) The director will issue a tentative decision as to whether the incinerator can meet the performance standards in subchapter O of chapter 11-264. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the incinerator is located. The director will accept comment on the tentative decision for 60 days. The director also may hold a

public hearing upon request or at his discretion.

(3) After the close of the public comment period, the director will issue a decision whether or not to certify the incinerator. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.352)

§§ 11-265-353 -- 11-265-369 [Reserved]

SUBCHAPTER P

THERMAL TREATMENT

§11-265-370 Other thermal treatment. The rules in this subchapter apply to owners or operators of facilities that thermally treat hazardous waste in devices other than enclosed devices using controlled flame combustion, except as section 11-265-1 provides otherwise. Thermal treatment in enclosed devices using controlled flame combustion is subject to the requirements of subchapter O if the unit is an incinerator, and subchapter H of chapter 11-266, if the unit is a boiler or an industrial furnace as defined in section 11-260-10. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.370)

§§ 11-265-371 -- 11-265-372 [Reserved]

§11-265-373 General operating requirements. Before adding hazardous waste, the owner or operator must bring his thermal treatment process to steady state (normal) conditions of operation -- including steady state operating temperature -- using auxiliary fuel or other means, unless the process is a non-continuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.373)

§11-265-374 [Reserved]

§11-265-375 Waste analysis. In addition to the waste analyses required by section 11-265-13, the owner or operator must sufficiently analyze any waste which he has not previously treated in his thermal process to enable him to establish steady state (normal) or other appropriate (for a non-continuous

process) operating conditions (including waste and auxiliary fuel feed) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

(a) Heating value of the waste;

(b) Halogen content and sulfur content in the waste; and

(c) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.375)

§11-265-376 [Reserved]

§11-265-377 Monitoring and inspections. (a) The owner or operator must conduct, as a minimum, the following monitoring and inspections when thermally treating hazardous waste:

(1) Existing instruments which relate to temperature and emission control (if an emission control device is present) must be monitored at least every fifteen minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions must be made immediately either automatically or by the operator. Instruments which relate to temperature and emission control would normally include those measuring waste feed, auxiliary fuel feed, treatment process temperature, and relevant process flow and level controls.

(2) The stack plume (emissions), where present, must be observed visually at least hourly for normal appearance (color and opacity). The operator must immediately make any indicated operating corrections necessary to return any visible emissions to their normal appearance.

(3) The complete thermal treatment process and associated equipment (pumps, valves, conveyors, pipes, etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.377)

§§ 11-265-378 -- 11-265-380 [Reserved]

§11-265-381 Closure. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash) from the thermal treatment

process or equipment. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.381)

§11-265-382 Open burning; waste explosives. Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometers/second at sea level). Owners or operators choosing to open burn or detonate waste explosives must do so in accordance with the following table and in a manner that does not threaten human health or the environment.

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others
0 to 100	204 meters (670 feet).
101 to 1,000	380 meters (1,250 feet).
1,001 to 10,000	530 meters (1,730 feet).
10,001 to 30,000	690 meters (2,260 feet).

[Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.382)

§11-265-383 Interim status thermal treatment devices burning particular hazardous waste. (a) Owners or operators of thermal treatment devices subject to this subchapter may burn EPA Hazardous Wastes FO20, FO21, FO22, FO23, FO26, or FO27 if they receive a certification from the director that they can meet the performance standards of Subchapter O of chapter 11-264 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify a thermal treatment unit:

(1) The owner or operator will submit an application to the director containing the applicable information in sections 11-270-19 and 11-270-62 demonstrating that the thermal treatment unit can meet the performance standard in subchapter O of chapter 11-264 when they burn these wastes.

(2) The director will issue a tentative decision as to whether the thermal treatment unit can meet the performance standards in subchapter O of chapter 11-264. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the thermal treatment device is located. The director will accept comment on the tentative decision for sixty days. The director also may hold a public hearing upon request or at his discretion.

(3) After the close of the public comment period, the director will issue a decision whether or not to certify the thermal treatment unit. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.383)

SUBCHAPTER Q

CHEMICAL, PHYSICAL, AND BIOLOGICAL TREATMENT

§11-265-400 Applicability. The rules in this subchapter apply to owners and operators of facilities which treat hazardous wastes by chemical, physical, or biological methods in other than tanks, surface impoundments, and land treatment facilities, except as section 11-265-1 provides otherwise. Chemical, physical, and biological treatment of hazardous waste in tanks, surface impoundments, and land treatment facilities must be conducted in accordance with subchapters J, K, and M, respectively. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.400)

§11-265-401 General operating requirements. (a) Chemical, physical, or biological treatment of hazardous waste must comply with subsection 11-265-17(b).

(b) Hazardous wastes or treatment reagents must not be placed in the treatment process or equipment if they could cause the treatment process or equipment to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(c) Where hazardous waste is continuously fed into a treatment process or equipment, the process or equipment must be equipped with a means to stop this inflow (e.g., a waste feed cut-off system or by-pass system to a standby containment device). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.401)

§11-265-402 Waste analysis and trial tests. (a) In addition to the waste analysis required by section 11-265-13,

whenever:

(1) A hazardous waste which is substantially different from waste previously treated in a treatment process or equipment at the facility is to be treated in that process or equipment, or

(2) A substantially different process than any previously used at the facility is to be used to chemically treat hazardous waste;

the owner or operator must, before treating the different waste or using the different process or equipment:

(i) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or

(ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions;

to show that this proposed treatment will meet all applicable requirements of subsections 11-265-401(a) and (b). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.402)

§11-265-403 Inspections. (a) The owner or operator of a treatment facility must inspect, where present:

(1) Discharge control and safety equipment (e.g., waste feed cut-off systems, by-pass systems, drainage systems, and pressure relief systems) at least once each operating day, to ensure that it is in good working order;

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges), at least once each operating day, to ensure that the treatment process or equipment is being operated according to its design;

(3) The construction materials of the treatment process or equipment, at least weekly, to detect corrosion or leaking of fixtures or seams; and

(4) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes), at least weekly, to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation). [Eff 6/18/94; comp](Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.403)

§11-265-404 Closure. At closure, all hazardous waste and hazardous waste residues must be removed from treatment processes or equipment, discharge control equipment, and discharge confinement structures. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.404)

§11-265-405 Special requirements for ignitable or reactive waste. (a) Ignitable or reactive waste must not be placed in a treatment process or equipment unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the treatment process or equipment so that

(i) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under section 11-261-21 or section 11-261-23 or this chapter, and

(ii) subsection 11-265-17(b) is complied with; or

(2) The waste is treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.405)

§11-265-406 Special requirements for incompatible wastes. (a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same treatment process or equipment, unless subsection 11-265-17(b) is complied with.

(b) Hazardous waste must not be placed in unwashed treatment equipment which previously held an incompatible waste or material, unless subsection 11-265-17(b) is complied with. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.406)

SUBCHAPTER R

UNDERGROUND INJECTION

§11-265-430 Applicability. Except as section 11-265-1 provides otherwise:

(a) The owner or operator of a facility which disposes of hazardous waste by underground injection is excluded from the requirements of subchapters G and H.

(b) The requirements of this subchapter apply to owners and operators of wells used to dispose of hazardous waste which are classified as Class I under 40 CFR 144.6(a) and which are classified as Class IV under 40 CFR 144.6(d). [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.430)

SUBCHAPTERS S-V

[RESERVED]

SUBCHAPTER W

DRIP PADS

§11-265-440 Applicability. (a) The requirements of this subchapter apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and/or surface water run-off to an associated collection system. Existing drip pads are those constructed before December 6, 1990 and those for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 6, 1990. All other drip pads are new drip pads. The requirement at paragraph 11-265-443(b)(3) to install a leak collection system applies only to those drip pads that are constructed after December 24, 1992 except for those constructed after December 24, 1992 for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 24, 1992.

(b) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither run-off nor run-on is generated is not subject to regulation under subsection 11-265-443(e) or subsection 11-265-443(f), as appropriate.

(c) The requirements of this subchapter are not applicable to the management of infrequent and incidental drippage in storage yards provided that:

(1) The owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental drippage. At a minimum, the contingency plan must describe how the facility will do the following:

(i) Clean up the drippage;

(ii) Document the cleanup of the drippage;

(iii) Retain documents regarding cleanup for three years; and

(iv) Manage the contaminated media in a manner consistent with State regulations. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.440)

§11-265-441 Assessment of existing drip pad integrity. (a) For each existing drip pad as defined in section 11-265-440, the owner or operator must evaluate the drip pad and determine that it meets all of the requirements of this subchapter, except the

requirements for liners and leak detection systems of subsection 11-265-443(b). No later than the effective date of this rule, the owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an independent, qualified registered professional engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and re-certified annually until all upgrades, repairs, or modifications necessary to achieve compliance with all of the standards of section 11-265-443 are complete. The evaluation must document the extent to which the drip pad meets each of the design and operating standards of section 11-265-443, except the standards for liners and leak detection systems, specified in subsection 11-265-443(b).

(b) The owner or operator must develop a written plan for upgrading, repairing, and modifying the drip pad to meet the requirements of subsection 11-265-443(b), and submit the plan to the director no later than 2 years before the date that all repairs, upgrades, and modifications are complete. This written plan must describe all changes to be made to the drip pad in sufficient detail to document compliance with all the requirements of section 11-265-443. The plan must be reviewed and certified by an independent qualified registered professional engineer.

(c) Upon completion of all repairs and modifications, the owner or operator must submit to the director, the as-built drawings for the drip pad together with a certification by an independent, qualified registered professional engineer attesting that the drip pad conforms to the drawings.

(d) If the drip pad is found to be leaking or unfit for use, the owner or operator must comply with the provisions of subsection 11-265-443(m) or close the drip pad in accordance with section 11-265-445. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.441)

§11-265-442 Design and installation of new drip pads. Owners and operators of new drip pads must ensure that the pads are designed, installed, and operated in accordance with one of the following:

(a) All of the applicable requirements of section 11-265-443 (except paragraph 11-265-443(a)(4)), sections 11-265-444 and 11-265-445, or

(b) All of the applicable requirements of section 11-265-443 (except subsection 11-265-443(b)), sections 11-265-444 and 11-265-445. [Eff 6/18/94; comp] (Auth: HRS §§342J-4, 342J-31, 342J-34, 342J-35) (Imp: 40 C.F.R. §265.442)